

What is claimed is:

1. A transistor comprising a source area, a drain area, and a channel area, each of which are formed by semiconductor films, and a gate insulating film, and a gate electrode,
5 wherein

the semiconductor film containing the source area and the semiconductor film containing the drain area are formed separately at both sides of an insulating member, and

the semiconductor film containing the channel area is formed over the insulating
10 member.

2. The transistor according to claim 1, wherein positions of end surfaces of the insulating member, the semiconductor film containing the source area, and the semiconductor film containing the drain area over the channel area side thereof are substantially the same height as one another.

15 3. The transistor according to claim 1 or 2, further comprising:
a first insulating layer that contains the insulating member and that partitions respective areas where the semiconductor film containing the source area and the semiconductor film containing the drain area are formed; and

a second insulating layer laminated over the first insulating layer that partitions
20 an area where the semiconductor film containing the channel area is formed, wherein
the gate insulating film is laminated over the channel area and the second insulating layer.

4. An integrated circuit comprising a transistor according to claim 1.

5. An integrated circuit comprising a transistor according to claim 2.

25 6. An integrated circuit comprising a transistor according to claim 3.

7. An electro-optic device including a transistor as a switching element and an electro-optic layer driven by the transistor, the transistor comprising:

a source area, a drain area, and a channel area, each of which are formed by semiconductor films, and also a gate insulating film, and a gate electrode, wherein

5 the semiconductor film containing the source area and the semiconductor film containing the drain area are formed separately at both sides of and sandwiching an insulating member, and

the semiconductor film containing the channel area is formed over the insulating member.

10 8. An electronic instrument including a display unit, the display unit comprising the electro-optic device according to claim 7.

9. A method of manufacturing a transistor including a source area, a drain area, and a channel area, each of which are formed by semiconductor films, and a gate insulating film, and a gate electrode, comprising the steps of:

15 forming the semiconductor film containing the source area and the semiconductor film containing the drain area separately at both sides of and sandwiching an insulating member, and

forming the semiconductor film containing the channel area over the insulating member.

20 10. The method of manufacturing a transistor according to claim 9, wherein the step of forming the semiconductor film containing the source area and the semiconductor film containing the drain area comprises the steps of:

forming a first insulating layer that partitions a predetermined area; and

placing semiconductor material containing impurities in the area partitioned by

25 the first insulating layer.

11. The method of manufacturing a transistor according to claim 10, wherein the step of forming the semiconductor film containing the channel area comprises the steps of:

forming a second insulating layer that partitions a predetermined area on the first
5 insulating layer;
placing semiconductor material in the area partitioned by the second insulating layer; and
forming the gate insulating film on the semiconductor film containing the channel.

10 12. The method of manufacturing a transistor according to any of claims 9 to 11, wherein when at least one of the semiconductor film containing the source area, the semiconductor film containing the drain area, the semiconductor film containing the channel area, and the gate electrode is formed, a droplet discharge method is employed that discharges material for its forming in droplet form.

15